

**OCCUPATIONAL SAFETY
AND HEALTH STANDARDS BOARD**

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Attachment No. 2

INITIAL STATEMENT OF REASONS

CALIFORNIA CODE OF REGULATIONS

TITLE 8, Chapter 4, Subchapter 7, Article 5, Section 3291; and
Article 6, Sections 3292, 3295 and 3296 of the General Industry Safety Orders.

Load Sustaining Devices used in Window Cleaning and Building Maintenance OperationsSUMMARY

The proposed amendments for this rulemaking action are in part related to the Occupational Safety and Health Standards Board Petition File No. 421 submitted by Mr. John "Eric" Pearce from Pearce Building Services. The Petitioner recommended a number of amendments related to the procedures, methods and time intervals for the testing of load sustaining devices used in window cleaning and building maintenance operations. The proposal contains amendments for Articles 5 and 6 of the General Industry Safety Orders that address provisions such as the inspection, testing, and record keeping for building safety devices and equipment used in window cleaning and building maintenance operations.

The rulemaking also incorporates proposed amendments recommended by the Division of Occupational Safety and Health (Division) memorandum and Cal/OSHA Form 9, Request for New, or Change in Existing Safety Order dated May 18, 2005. The Division recommended amendments for Section 3291(f) regarding the strength of roof tie-back anchors for consistency with other standards. The Division further recommended language specifying limitations for the maximum size and assembled weight of portable davits¹ in proposed new Section 3295(c)(3)(G) consistent with the provisions outlined in current national consensus standards. The proposal was developed with the assistance of an advisory committee.

Section 3291. Special Design Considerations – Permanent Roof Top Installations.Section 3291(a)

Section 3291 contains provisions for the design of permanent roof top installations. Subsection (a), in part, requires that a civil or mechanical engineer registered in the State of California prepare calculations and/or plans substantiating the structural integrity of all facets of the complete installation, including the eyebrow sleeves, roof davit systems, roof outrigger beams,

¹ A davit is a device used singularly or in pairs, for suspending a powered platform from work, storage and rigging locations on the building being serviced. A portable davit is designed and dedicated for a specific building or roof area and is capable of being moved manually within a dedicated work area.

and roof tie-backs. A non-substantive amendment deletes an obsolete reference to the California Building Code, Title 24, Part 2 and Health and Safety Code Section 18943(b).

Section 3291(f)(1)

Subsection (f) addresses the design requirements for roof tie-backs. Existing subsection (f)(1) requires that every building constructed 3 stories or 36 feet or more in height shall have eyebolts or other permanent devices installed at the roof level for the purpose of securing or tying back suspended scaffold hooks or clamps and safety lines. The advisory committee for this proposal determined that the term “eyebolt” was confusing and lacked clarity. This is because common threaded eyebolts can be purchased at most hardware stores that are not engineered or suitable for roof tie-back installations. Therefore, an amendment is proposed to delete the term “eyebolt” and replace it with “roof tie-backs.” A similar amendment is proposed in subsection (f)(1), Exception No. 2. The proposed amendments are necessary to provide clarity to the standard.

Section 3291(f)(2)(A)

Existing subsection (f)(2)(A) provides that tie-backs shall be “drop forged eyebolts or other components of equivalent strength” having at least a 2-inch diameter closed eye. Existing Section 3291(a) requires that a civil or mechanical engineer design roof tie-backs so it is unnecessary to specify the design materials. Further, the proposal would delete the reference to “eyebolts” for the same rationale described for Section 3291(f)(1). An amendment is proposed to delete language that references drop forged eyebolts so that the standard states that “roof tie-backs” shall have at least a 2-inch inside diameter closed eye. The proposed amendment is necessary to provide clarity to the standard.

Section 3291(f)(2)(C)

Existing Section 3291(f)(2)(C) requires that the assembly and anchorage provisions for roof tie-backs be adequate to sustain a 5400 pound (tensile) load applied in any direction. An amendment is proposed to delete the reference to “tensile” loads. The word “tensile” can mean testing in one direction at the longitudinal axis, and that conflicts with the provisions in this subsection that require strength factors for a load applied in any direction. The proposed amendment is necessary to provide clarity to the standard.

An additional amendment would change the load sustaining requirements for roof tie-backs from 5400 pounds to 5000 pounds. According to the Division, the origin of the 5400 pound design requirement is related to the use of ¾ inch manila rope which is no longer used in window cleaning and building maintenance operations. This amendment is necessary so that the strength factors for roof tie-backs are consistent with the 5000 pound strength requirement for anchors used in fall protection systems that are referenced in federal OSHA standards and national consensus standards such as ANSI/International Window Cleaning Association (IWCA) I-14.1-2001 standard for “Window Cleaning Safety.”

Section 3291(f)(3)

Section 3291(f)(3) states that roof tie-backs or other devices shall not be installed in a wood roof framing system. Section 3291(a) requires a civil or mechanical engineer to substantiate the structural integrity of roof tie-backs which are required on every building 3 stories or 36 feet in height with several exceptions. However, at the advisory committee meeting, members stated that Section 3291(f)(3) lacked clarity and one might infer from the wording that roof tie-backs are not to be installed in any wood framed building regardless of the building height. The intent of the existing standard is to ensure that roof tie-backs are not installed in wood roof framing materials such as plywood sheeting or rafters that may not be substantial enough to support the potential loads imposed by roof tie-back systems. However, in Section 3291(a), it is the engineer's responsibility to ensure that roof tie-backs for wood frame buildings that are required by Section 3291(f)(1), are attached and installed to adequate and substantial structural members of a building. Therefore, an amendment is proposed to delete Section 3291(f)(3). The amendment is necessary to provide clarity to the standard.

Section 3291(f)(4)

Existing Section 3291(f)(4) is renumbered in the proposal as Section 3291(f)(3) and a non-substantive amendment deletes an obsolete reference to the California Building Code, Title 24, Part 2, for the same rationale described for Section 3291(a).

Section 3292. General. (General requirements for Article 6. Powered Platforms and Equipment for Building Maintenance)

Section 3292(a) provides the scope statement for Article 6 and, in part, provides that building maintenance includes, but is not limited to such tasks as window cleaning, caulking, metal polishing and reglazing.

Section 3292(c)(5)

Section 3292(c) "Assurance," in part, specifies the building owner's requirements to provide in writing that building maintenance installations have been inspected, tested and maintained in accordance with the applicable provisions in Article 6. Existing Section 3292(c)(5) provides that the employer shall not permit employees to use an installation prior to receiving assurance from the building owner that the installation meets the requirements contained in subsections (c)(1), (c)(3) and (c)(4) of Section 3292. Section 3292(c)(1) and (c)(3) require the building owner to provide the employer "written" assurance that installations are in compliance with the applicable provisions in Article 6. An editorial amendment is proposed for Section 3292(c)(5) that would specify that the assurance received by the employer from the building owner must be "written" assurance. The amendment is necessary to provide consistency with Section 3292(c)(1) and (c)(3) that require assurances received from the building owner to an employer are in writing.

Section 3295. Powered Platform Installations – Equipment.

Section 3295 provides requirements that apply to equipment for powered platform installations such as platforms, stabilizing components, carriages, outriggers, davits, hoisting machines, wire ropes and electrical components. In addition to the amendment for new Section 3295(c)(3)(G), several non-substantive renumbering and editorial revisions are included in the proposal for clarity.

New Section 3295(c)(3)(G)

Section 3295(c) provides that elevated building maintenance equipment shall be suspended by a carriage, outriggers, davits or an equivalent method. Section 3295(c) provides specific design and installation requirements for davits. A new Section 3295(c)(3)(G) is proposed that would require portable davits to have a maximum reach of 8 feet, 6 inches (2600 mm) and a maximum fully assembled weight of 300 pounds (135 kg).

Portable davits have customarily been used on buildings with relatively low parapet walls, while buildings with high parapet walls have been equipped with either fixed-high profile davits, or raised catwalks where portable davits could be installed. The Division indicated that some manufacturers have designed huge portable davits which eliminate the need for fixed davits or the installation of catwalks. However, the huge davits, even when they disassemble for moving, create hazards for employees when the davits are hoisted into place with lightweight portable hoisting equipment or when a suspended platform or swingstage scaffold must be raised to great heights off the roof deck and be swung out over the parapet wall.

The proposed amendment is necessary to ensure portable davits are at a size specified in national consensus standards for window cleaning and building maintenance operations. The amendment is also necessary to ensure that portable davits are installed so that they can be safely moved from one drop location to another by window cleaning and building maintenance personnel.

Section 3296. Inspection and Tests.

Section 3296 contains requirements related to the inspection and testing of completed building maintenance equipment installations before being placed into service. This section also requires periodic inspection, testing, maintenance and documentation of inspection and testing for existing installations.

Section 3296(a)

Existing Section 3296(a) requires all completed building maintenance equipment installations to be inspected and tested in the field before being placed in initial service to determine that all parts of the installation conform to applicable requirements of Article 6, and that all safety and operating equipment is functioning as required. This subsection requires a similar inspection and test to be made following any major alteration to an existing installation. This subsection further states that no hoist in an installation shall be subjected to a load in excess of 125 percent of its rated load.

A non-substantive formatting amendment would move the last sentence of this subsection to a new Section 3296(a)(1) for clarity.

A new subsection 3296(a)(2) is proposed that would require the building owner to keep a certification record of each inspection and test that is required for completed installations under subsection (a) of this section. The amendment is necessary to require similar certification and documentation of inspection and testing for completed installations that are required in Section 3296(b)(2) for existing installations, thus avoiding confusion as to which inspections and tests require that a record be kept.

Section 3296(b)(2)

Subsection (b)(1), in part, requires building maintenance equipment and installations to undergo periodic inspection and testing at least every 12 months. Existing Section 3296(b)(2) requires the building owner to keep a certification record of each inspection and test required under subsection (b)(1) of Section 3296. An amendment is proposed in subsection (b)(2) that would require the certification record (documentation) to be maintained for each inspection and test required under all of subsection (b) of Section 3296. The proposed amendment is necessary to ensure that the building owner has a certification record of professional engineer inspections and any load testing of building safety devices and equipment required under the provisions of subsection (b), including proposed Section 3296(b)(3).

New Section 3296(b)(3)

Existing Section 3296(b)(3) is relocated to Section 3296(b)(7) in the proposal. A new Section 3296(b)(3) would require that building safety devices and equipment as described in Section 3282(p)(1)(A) shall be load tested if damage, corrosion or deterioration affecting the load bearing integrity of the equipment is detected or suspected. The amendment is necessary to identify conditions that would require load testing to verify the structural and load bearing integrity of safety devices and equipment.

New Section 3296(b)(3)(A)

Proposed Section 3296(b)(3)(A) would require that the safety device or equipment shall be removed from service until repaired or replaced if testing indicates that the load sustaining integrity of a safety device or equipment has been compromised. The amendment is necessary to ensure that unsafe devices or equipment are repaired or removed from service.

New Section 3296(b)(3)(B)

Proposed Section 3296(b)(3)(B) would require that a professional engineer experienced in the design of building safety devices and equipment inspect and evaluate such equipment when any of the following occur; 1) The design documents are not available; 2) The design is deficient; or 3) Inspections or tests determine that the safety devices or equipment are not safe for use. The proposed amendments are necessary to ensure that a building's safety devices and equipment

that are integral for safe window cleaning or building maintenance operations are evaluated by a professional engineer when such devices or equipment's operational or structural integrity is not documented, or is suspect or compromised.

New Section 3296(b)(3)(C)

Proposed new Section 3296(b)(3)(C) would require that damage to safety devices or equipment, or damage to the building structure from testing operations shall be reported to the building owner. The proposed amendment is necessary to ensure that the building owner is notified when the safety devices, equipment or the building structure is damaged from the testing operations.

New Section 3296(b)(3)(D)

Proposed new Section 3296(b)(3)(D) would require that if safety deficiencies affecting the load bearing integrity of devices or equipment have not been corrected within 60 days from the date the building owner was notified, the deficiencies shall be reported to the Division by the inspecting agency. The proposed amendment is necessary so that that unsafe building conditions associated with the use of load bearing devices and equipment are corrected.

New Section 3296(b)(4)(A)

Proposed new Section 3296(b)(4)(A) would require that load suspension devices shall not be tested to more than 2 times the rated working load which the device is designed to lift and/or support. Load suspension devices such as davits and outrigger beams are required by Section 3291 to be designed with a safety factor of 4 times the rated load. It is an accepted engineering practice in window cleaning operations that load sustaining devices such as davits and outrigger beams be load tested to no more than 2 times the rated load. The proposed amendment is necessary so that these devices are tested sufficiently to ensure their structural integrity but not tested to the extent that the devices or building structure sustains damage.

New Section 3296(b)(4)(B)

Proposed new Section 3296(b)(4)(B) would require that roof tie-backs be tested to no more than 50 percent of their rated capacity. For example, a roof tie-back with a rated capacity of 5000 pounds would not be tested in excess of 2500 pounds. Design standards for roof tie-backs do not specify a specific required safety factor or rated working load. However, engineers familiar with the window cleaning industry indicate that a safety factor of 4 to 1 is included in the overall load design limits or rated capacity of the devices. The proposed amendment is necessary so that these devices are tested sufficiently to ensure their structural integrity but not tested to the extent that the devices or building structure sustains damage.

New Section 3296(b)(5)

Proposed new Section 3296(b)(5) would require that test equipment is calibrated at least annually and these records be available to the Division. The proposed amendment is necessary so that accurate tests are performed on devices that are integral for safe window cleaning and building maintenance operations.

New Section 3296(b)(6)

Proposed new Section 3296(b)(6) would require the load testing methodology and load testing procedures for a building's safety devices and equipment to be prescribed, in writing, by a professional engineer and that load tests are performed by qualified persons under the direction of the engineer. The proposed amendment is necessary to ensure effective and safe testing procedures that are planned and performed by persons with the appropriate expertise.

DOCUMENTS RELIED UPON

1. Memorandum, dated May 18, 2005, to Keith Umemoto, Executive Officer, Occupational Safety and Health Standards Board, from Len Welsh, Acting Chief, Division of Occupational Safety and Health with attached Cal/OSHA Form 9, "Request For New, or Change in Existing, Safety Order.
2. Petition dated June 23, 2000, submitted by John "Eric" Pearce, Pearce Building Services, to the Occupational Safety and Health Standards Board.
3. Occupational Safety and Health Standards Board Decision dated November 16, 2000, in the matter of Petition File No. 421 by John "Eric" Pearce, Pearce Building Services.
4. American National Standards Institute, International Window Cleaning Association (ANSI/IWCA) I-14.1-2001, Window Cleaning Safety, Approved October 25, 2001.
5. American Society of Mechanical Engineers (ASME) A120.1-2001, Safety Requirements for Powered Platforms for Building Maintenance.

These documents are available for review Monday through Friday from 8:00 a.m. to 4:30 p.m. at the Standards Board Office located at 2520 Venture Oaks Way, Suite 350, Sacramento, California.

REASONABLE ALTERNATIVES THAT WOULD LESSEN ADVERSE ECONOMIC
IMPACT ON SMALL BUSINESSES

No reasonable alternatives were identified by the Board and no reasonable alternatives identified by the Board or otherwise brought to its attention would lessen the impact on small businesses.

SPECIFIC TECHNOLOGY OR EQUIPMENT

This proposal will not mandate the use of specific technologies or equipment. In Section 3291, the proposal clarifies existing requirements, and would reduce the design strength requirements for roof tie-backs consistent with strength requirements for anchors used in fall protection systems and those specified in window cleaning related national consensus standards. The proposed amendment for Section 3292 is editorial and provides clarity to the standard.

The proposed amendment for Section 3295 would limit the maximum reach and fully assembled weight of portable davits. National consensus standards for window cleaning safety and the use of powered platforms for building maintenance such as AMSE A120.1-2001, contain similar portable davit size limits. The Division states that it has prohibited the installation of huge, oversized davits for a number of years and does not expect that existing buildings will be subject to retrofitting.

Proposed amendments for Section 3296 would require building owners to maintain records of initial inspections and testing that is performed on completed building maintenance installations. The proposal also clarifies and specifies when load testing should be performed on building safety devices and equipment. It is believed that building owners and their scaffold inspection and testing agencies are already testing building safety devices and equipment that show damage or deterioration affecting the load bearing integrity of such equipment.

The proposal also requires, under certain conditions, that a professional engineer would evaluate building safety devices and equipment and that the testing procedures are prescribed by a professional engineer. An engineer is already required by Sections 3291 and 3294(a)(1) to prepare calculations and/or plans for the design and structural integrity of all facets of building installations. Scaffold inspection testing agencies and members of the Building Owners and Managers Association indicate that they already use professional engineers to plan and prescribe load testing procedures. Therefore it is not anticipated that the proposal will result in any significant new costs to building owners or businesses.

COST ESTIMATES OF PROPOSED ACTION

Costs or Savings to State Agencies

No costs or savings to state agencies will result as a consequence of the proposed action. Also, see the statement above under the heading "Specific Technology or Equipment."

Impact on Housing Costs

The Board has made an initial determination that this proposal will not significantly affect housing costs.

Impact on Businesses

The Board has made a determination that this proposal will not result in a significant, statewide, adverse economic impact directly affecting businesses, including the ability of California businesses to compete with businesses in other states. Also, see the statement above under the heading "Specific Technology or Equipment."

Cost Impact on Private Persons or Businesses

The Board is not aware of any cost impacts that a representative private person or business would necessarily incur in reasonable compliance with the proposed action. Also, see the statement above under the heading “Specific Technology or Equipment.”

Costs or Savings in Federal Funding to the State

The proposal will not result in costs or savings in federal funding to the state.

Costs or Savings to Local Agencies or School Districts Required to be Reimbursed

No costs to local agencies or school districts are required to be reimbursed. See explanation under “Determination of Mandate.”

Other Nondiscretionary Costs or Savings Imposed on Local Agencies

This proposal does not impose nondiscretionary costs or savings on local agencies.

DETERMINATION OF MANDATE

The Occupational Safety and Health Standards Board has determined that the proposed standards do not impose a local mandate. Therefore, reimbursement by the State is not required pursuant to Part 7 (commencing with Section 17500) of Division 4 of the Government Code because the proposed amendments will not require local agencies or school districts to incur additional costs in complying with the proposal. Furthermore, these standards do not constitute a “new program or higher level of service of an existing program within the meaning of Section 6 of Article XIII B of the California Constitution.”

The California Supreme Court has established that a “program” within the meaning of Section 6 of Article XIII B of the California Constitution is one which carries out the governmental function of providing services to the public, or which, to implement a state policy, imposes unique requirements on local governments and does not apply generally to all residents and entities in the state. (County of Los Angeles v. State of California (1987) 43 Cal.3d 46.)

These proposed standards do not require local agencies to carry out the governmental function of providing services to the public. Rather, these standards require local agencies to take certain steps to ensure the safety and health of their own employees only. Moreover, these proposed standards do not in any way require local agencies to administer the California Occupational Safety and Health program. (See City of Anaheim v. State of California (1987) 189 Cal.App.3d 1478.)

These proposed standards do not impose unique requirements on local governments. All state, local and private employers will be required to comply with the prescribed standards.

EFFECT ON SMALL BUSINESSES

The Board has determined that the proposed amendments may affect small businesses. However, no economic impact is anticipated. Also, see the statement above under the heading “Specific Technology or Equipment.”

ASSESSMENT

The adoption of the proposed amendments to these standards will neither create nor eliminate jobs in the State of California nor result in the elimination of existing businesses or create or expand businesses in the State of California.

ALTERNATIVES THAT WOULD AFFECT PRIVATE PERSONS

No reasonable alternatives have been identified by the Board or have otherwise been identified and brought to its attention that would be more effective in carrying out the purpose for which the action is proposed or would be as effective and less burdensome to affected private persons than the proposed action.